

REMARKS/ARGUMENTS

Favorable reconsideration of this Application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-3 and 13-15 are pending; Claims 1-3 are amended; Claims 5-12 are cancelled; and no claims are added herewith. It is respectfully submitted that no new matter is added by this amendment.

In the outstanding Office Action, Claims 3, 5, 8, and 9 were rejected for obviousness-type double patenting over copending application 10/330,092; Claim 10 was rejected for nonstatutory obviousness-type double patenting over copending application 10/706,915; Claims 2 and 3 were rejected under 35 U.S.C. § 112, second paragraph; Claims 1-3, 5-6 and 13 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Publication 2002/0064439 to Otaguro in view of U.S. Patent No. 6,473,993 to Tokunaga; Claims 5-8 and 11-15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kinapara; Claim 9 was rejected under 35 U.S.C. § 103(a) as unpatentable over Kinapara in view of Kudo; and Claim 10 was rejected under 35 U.S.C. § 103(a) as unpatentable over Kinapara and further in view of U.S. Patent No. 6,473,993 to Tokunaga.

With regard to the rejection of the claims for double patenting, the invention of Claims 1 and 2 of the co-pending application of 10/330,092 do not have a feature defined in the wherein clause of Claim 1 of the present application. That is, the present invention has the feature of the gas flow path and gas flow rate, but does not have a feature relating to the position of the aperture which is characteristic feature of the co-pending application. Therefore, the invention of Claim 3 is patentable over Claim 1 or 2 of the co-pending application. Withdrawal of the rejection of the claims for double patenting is respectfully requested.

With respect to the rejection of the claims under 35 U.S.C. § 103(a), the applied art does not teach, disclose or suggest a gas flow path from the chamber to the exterior of the mini-environment portion is formed such that a flow rate of gas flowing from the chamber to the exterior of the mini-environment portion in a case that the wafer transferring operation is not performed and the door closes the first opening portion, becomes substantially equal to a flow rate of gas flowing out from a space formed from the chamber and the clean box, through a gap between a surface of clean box facing the wall on which the first opening is formed and the wall, in case that the wafer transferring operation is performed, as recited in Claim 1.

The Office Action asserts that Otaguro teaches that surrounding the opening a gap of zero or short distance may be maintained. However, the reference discloses that the gap is preferably zero and if the gap has short distance, the entry of dust into the FOUP can be prevented since the highly pressurized gas in the clean room will flow out the ambient atmosphere. Accordingly, the reference clearly says that the gap is preferably set to zero.

In contrast, according to exemplary embodiments of the present invention, the gas flow path is positively formed by using the opening and clearance so as to form a gas flow path formed through a gap so that the flow rate of gas flowing along the gas flow path is made substantially constant irrespective of the opening or closing state of the door, thus preventing or minimizing dust from being mixed into the gas in the clean box.

Additionally, Tokunaga and Kinapara fail to teach or suggest the flow rate of gas flowing out from a space formed from the chamber and the clean box, through a gap between a surface of clean box facing the wall on which the first opening is formed and the wall, in case that the wafer transferring operation is performed.

As disclosed in the Specification, conventional semiconductor devices for the processing of wafers are kept in a highly clean condition by maintaining the pressure within

the mini environmental portion higher than an external ambient pressure. As such, when a door of the mini-environment is opened for transferring of the wafer, an airflow with a variable flow rate and a significant turbulence level is created, causing dust to be transported into the mini-environment, thus contaminating the wafer being processed. However, according to exemplary embodiments of the invention, the flow path is such that a flow rate of a gas flow from the inside of the mini-environment to the outside when the door is closed is substantially equal to the flow rate of the gas when the door is opened. As such, the above-described flow with a high level of turbulence is significantly reduced or eliminated. The applied art does not disclose the all the features recited in the independent claims and therefore, does not teach or disclose such an advantageous flow path.

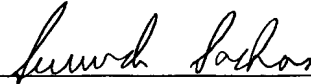
Accordingly, the applied art neither individually nor in any combination, render obvious the invention recited in the claims and withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully requested.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-3 and 13-15 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representatives at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599

Kevin M. McKinley
Registration No. 43,794

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

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Surinder Sachar
Registration No. 34,423